

Reflection and Exploration of Teaching Reform of the Course "Investment Banking" under the Background of Information Technology

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Abstract: The rapid development of information technology is both a challenge and an opportunity for traditional college classrooms. As the core course of finance major, "Investment Banking" needs to start from the characteristics of the course and use information technology to optimize the teaching mode and reform the teaching method. At present, there are some deficiencies in the teaching of "Investment Banking" in terms of teaching materials, teaching methods, teaching content, and teachers' ability. This paper proposes a teaching reform approach from three aspects of teaching content, teaching methods, course assessment, and adopts diversified teaching methods to create a multi-dimensional hybrid online and offline blended teaching model that includes pre-class guidance, in-class teaching, post-class training, and teaching evaluation and feedback. This will better cultivate professional talents familiar with the capital market and investment banking theory and practice, and enhance students' professional practical ability and employment prospects.

1. Introduction

The Outline of China's 14th Five-Year Plan proposes to build a high-quality education system, enhance teachers' ability in teaching and educating students, deepen education reform, give full play to the advantages of online education, and create a learning-oriented society. This requires leveraging the advantages of modern information technology, including the Internet. China's capital market has experienced more than 30 years of "emerging + transitional" reforms and development, and the structure and functions of the capital market have been continuously improved. It has now become the world's second largest capital market. Investment banking is the soul of the capital market. As an important intermediary of the capital market, the role of investment banking in the industry is increasingly prominent. However, investment banking in China is still in its early stages, and the development of the capital market system and investment banking industry urgently requires professionals who are familiar with the theories and practices of the capital market and investment banking.

With the rapid development of 5G network applications, big data, cloud computing, artificial

intelligence, and blockchain, the fusion of financial technology and the financial industry is accelerating, and the focus of investment banking business is shifting. These developments pose new challenges to the talent training objectives, faculty construction, and curriculum teaching methods of finance in colleges and universities. Leveraging the advantages of modern information technology can accelerate the training of financial professionals in application-oriented undergraduate colleges and universities, adapt to the market's demand for specialized talents, and solve the mismatch between the demand and supply of financial talents in the capital market.

As a core course in finance, Investment Banking has strong innovation and practicality. The goal of the course is to help students master the basic concepts, functions, and common terminology of investment banking, familiarize themselves with the basic business and steps of investment banking, and grasp the fundamental knowledge of sub-fields such as securities issuance, company mergers and acquisitions, corporate refinancing, asset securitization, etc. Students will be able to use relevant knowledge to creatively analyse and solve practical problems. Facing the vibrant and ever-changing capital market, it is a great challenge for the teacher to effectively complete this course within a limited time. This paper combines existing research and teaching experience to explore how to use advanced internet technology to achieve innovative teaching reform in Investment Banking under the context of informatization technology. The aim is to better cultivate talents with practical abilities and innovative spirit for the financial industry, and to improve the teaching effect.

2. The Current Situation and Existing Problems in the Teaching of "Investment Banking"

2.1. Mismatch Between Talent Cultivation and Social Demand

With the continuous development and growth of China's capital market, the focus of finance will shift from commercial banks to investment banks. The position of investment banking in the curriculum system will be elevated, and the combination of investment banking and fintech is the trend. Currently, investment banking business is facing transformational pressures, and financial technology is an important technical support for the transformation of investment banking business. However, the curriculum and teaching of investment banking studies are lagging behind the development of financial technology. Securities companies, fund companies, investment companies and other employers urgently need comprehensive talents who possess both theoretical knowledge and practical operational skills, as well as certain adaptability, communication, and collaboration skills for the industry. However, in reality, new graduates generally lack practical skills, cannot meet the high-end talent demands of the investment banking industry, and have fewer employment opportunities.

2.2. Difficult in Choosing the Appropriate Teaching Materials

Currently, there are more than ten versions of the latest "Investment Banking" textbooks in China, with slight differences in chapter settings, emphasis of theory and practice, and the amount of case studies. These differences mainly stem from the differences between practice-oriented universities and research-oriented universities, high-level universities and ordinary universities or vocational colleges, and are fundamentally determined by the employment destinations, training goals, and training plans of finance major students in various universities and colleges. Although there are differences in the structure and arrangement of the textbook system, they are all based on the logic of investment banking business, covering the concepts of investment banking, investment banking business, and risk management and supervision of investment banks, with the business part mainly covering how to operate enterprise IPOs, secondary offerings, asset securitization, corporate M&A business, and some textbooks also mention innovation in investment banking business. This requires

teachers to spend a lot of time and effort carefully comparing and analysing different textbooks, and then choosing the one that is closest to their school's training direction. Based on this, teachers should modify and supplement teaching resources, flexibly use teaching methods, and enable students to not only have a thorough understanding of the basic theories of the course, but also cultivate their innovation and practical abilities.

2.3. The Teaching Method Mainly Relies on Traditional Theoretical Lectures, and The Students are Not Active in Participation

Currently, the Lecture-based learning (LBL) is generally used, with less interaction between teachers and students, and students' enthusiasm for learning is not high. Although I have designed student participation activities in teaching, where students form groups spontaneously, search for cases around key chapter content and present their findings in class PPTs. When each group presents, the other groups are appointed as a "judge" to comment or ask questions about the presentation. However, some problems were found during actual implementation: (1) Only a few students voluntarily acted as judges in the front row of the classroom; (2) During the question-and-answer session, each "judge" remained silent and could not ask any questions; (3) Faced with the teacher's questions, most students presenting the case could not respond quickly and need to search their PPTs or textbooks to recall relevant knowledge points. It can be seen that although the students have searched for cases and made PPT presentations, many of them still read directly from their PPTs, and their ability to integrate theory and practice is still relatively weak.

2.4. Practical Teaching is Difficult to Implement

The course of Investment Banking has a strong practicality, which requires students to actively participate in case teaching, field inspections, and other forms to enhance their ability to connect theory with practice and employment capabilities. In actual operation, only a few students are willing to spend time and energy collecting information and case materials, participating in group cooperation, and some students have the phenomenon of free-riding in group assignments, which reduces the effectiveness of practical teaching. The internship positions corresponding to the course "Investment Banking" require interns to have strong knowledge in finance and law, and they will also bear certain business risks. For industry research positions, interns are required to have strong analytical abilities and must have a deep understanding and sensitivity towards a particular industry. It is difficult for undergraduate students to get involved in such practical internships that are most closely related to the course. Financial institutions such as securities companies and fund management companies cannot accommodate more student participation in practical or internship activities. The most common internship position for undergraduate students is lobby manager, which has limited impact on improving their practical abilities.

2.5. Teachers' Practical Teaching Ability is Limited

The knowledge system of Investment Banking is complex, and the practical cases are rich, involving many disciplines such as securities investment, law, and corporate finance. This requires teachers to have a dual knowledge system of theory and practice, not only to have a solid theoretical foundation in finance and economics, but also to have a deep understanding of the industry corresponding to the course they teach, and to conduct more corporate research and communicate with practitioners. However, the vast majority of teachers have been engaged in full-time teaching work for a long time, lacking practical work experience in investment banking, and the relevant regulations of investment banking business are constantly updated, which limits the depth of practical

teaching in the course.

From the above, it can be seen that domestic scholars have reached a consensus on the problems existing in the teaching of "Investment Banking". To solve these problems, scholars have explored various teaching methods, such as case-based teaching [1-2], modular teaching mode [3], project-based teaching [4], scenario simulation teaching, and blended teaching [5]. These teaching reform explorations provide references for this paper, but the feasibility of solving some problems needs further improvement and refinement. For example, it is difficult to improve teachers' practical ability in the short term by allowing them to participate in employment internships in financial enterprises. In addition, there is less mention of the application of new technologies and new teaching tools. So, it is necessary to combine the characteristics of the "Investment Banking" curriculum with the development dynamics of the capital market and investment banking, and to implement a blended teaching reform design by introducing industry resources and Internet technology, in order to partially compensate for the above deficiencies, enhance teaching effectiveness, and achieve a virtuous cycle of course construction development.

3. Ideas and Countermeasures for the Reform of Investment Banking Teaching

Guided by the educational development concept of cultivating virtuous individuals, this project aims to reform the classroom through information technology and the "Internet+" approach, combining online and traditional classroom learning. Based on the modern business requirements of investment banking and financial professional development programs, teaching reform ideas are designed from three aspects: teaching content, teaching methods, and course assessment. A variety of teaching methods, such as "theoretical knowledge + case analysis + scenario simulation + virtual simulation", are adopted to form a multi-dimensional online-offline hybrid teaching mode, including pre-class guidance, in-class teaching, post-class training, and teaching evaluation and feedback.

This course uses the third edition of "Investment Banking: Theory and Cases" by Professor Ma Xiaojun from Nankai University. Chapters 1 and 2 provide an overall introduction to the macro level. Chapter 1 mainly introduces the business of investment banking and its differences from commercial banks, while Chapter 2 introduces the ways and methods of analysing financing needs from the perspective of enterprises. Chapters 3 to 7 are specific business sections of investment banks, which are the core chapters of this course and have obvious practical features. Therefore, diversified teaching methods need to be adopted to achieve the goal of combining theory with practice. According to the teaching objectives, Investment Banking requires students to master the following five core abilities: understanding the main business of investment banks, familiarizing themselves with the process and conditions of stock issuance and listing, designing the process of asset securitization, designing the process of mergers and acquisitions, and valuating stocks and bonds. Among them, the initial public offering of stocks is the main business of investment banks, so a teaching reform plan is designed by taking this part of content as an example.

3.1. Pre-class Preparation: Flipped Classroom Design for Key and Difficult Content

This chapter is the focus and foundation of the course, and many knowledge points require students to be familiar with and actively participate in pre-class preparation to enhance the ability to link theory with practice. The teacher will use the WeChat Teaching Platform to upload course materials before class for students to preview. It mainly includes:

(1) The main laws and regulations applicable to IPO listing. Involving more than a dozen related laws and regulations, the relevant information will be uploaded to the online course platform before class and students will be required to preview it.

(2) The conditions for IPO listing. The listing conditions for A-share listed companies in China

mainly involve five aspects: qualification of the subject, independence, standardized operation, financial accounting, and use of raised funds, which students need to preview before class.

(3) The key points of enterprise listing review and cases of listing rejection. The key points of enterprise listing review mainly include: financial authenticity and standardization, related party transactions, sustainable profitability, compliance of operations, independence, historical evolution, compliance of business, and industry competition. The relevant cases will be discussed in class, and course materials will be uploaded to the online course platform before class, requiring students to be familiar with the background materials to participate in class discussion.

3.2. Classroom Teaching: Discussion and Knowledge Extension

There are two main learning tasks during the in-class phase: answering questions and expanding knowledge. First, the teacher summarizes and comments on the students' independent learning before class, then reviews and explains important knowledge points, especially the difficulties and problems students encounter in pre-class independent learning. At the same time, the teacher provides some in-depth questions to inspire students thinking and discussion, such as the reasons for China's stock issuance pricing mechanism reform, comparison of different stock pricing methods, and the effect of stock price stabilization strategies, etc. The specific teaching design is as follows:

(1) Discussion on the advantages and disadvantages of companies going public. A short video "CEO of Xiaomi Technology Co., Ltd. Lei Jun talks about the benefits and drawbacks of going public" and "JD Group CEO Liu Qiangdong explains why going public" will be shown to prompt students to think about the advantages and disadvantages of companies going public, and to discuss why Huawei, a Chinese company, has not gone public, deepening their understanding of the motivation for companies going public and the advantages and disadvantages.

(2) Discussion on the registration system for stock issuance. China is currently promoting market-oriented reforms for stock issuance, shifting from an approval-based system to a registration system, and it has been piloted on the Science and Technology Innovation Board since 2019. On February 1, 2023, China officially launched the comprehensive implementation of the registration system for stock issuance. The China Securities Regulatory Commission has released rules such as the "Administrative Measures for the Registration of Initial Public Offerings of Stocks" and the "Administrative Measures for the Registration of Securities Issued by Listed Companies," and is soliciting public opinions. This course will require students to think about the impact of the registration system reform on China, such as the potential impact on companies planning to go public, investment banking business, investors, and other relevant parties, and engage in discussions.

3.3. Consolidation After Class: Review and Practice

The students' post-class tasks mainly include homework exercises, due diligence and practices, classroom presentations, and virtual simulation experiments.

(1) After-class review. By providing additional course materials and homework assignments, students are helped to clarify the course structure and fill in knowledge gaps. The students' post-class tasks mainly include completing homework exercises, due diligence investigations, and classroom presentations, and virtual simulation experiments. Students are required to use financial data to value stocks and bonds, and complete corresponding assignments; form a study group of 5-6 people to conduct due diligence on an industry or enterprise of interest, complete a research report and present it in class, and become familiar with the business and role of investment banks in the stock issuance process through practice.

(2) Virtual simulation experiments and role-playing in the IPO process. The introduction of a virtual simulation experiment platform can help overcome the difficulties of practical teaching. With

the help of multimedia technology, a highly virtual reality simulation experimental teaching environment is constructed. This enables learners to experience the feeling of being in the environment and can greatly stimulate their interest in learning, improve their mastery of theoretical knowledge in the classroom, and enhance their ability to apply it. To deepen students' understanding of the Chinese capital market, the practical teaching segment will introduce the "Science and Technology Innovation Board IPO Roadshow and Stock Issuance Market Pricing Virtual Simulation" experiment platform hosted by Professor Huang Jianzhong of Shanghai Normal University. This project uses modern technologies such as virtual simulation and big data processing, allowing experimenters to experience the private work of institutions such as roadshows, inquiries, pricing and distribution through multiple professional role-playing. This will deepen students' understanding, mastery, and application of the key content.

3.4. Improve the Evaluation and Assessment System and Student Feedback

Course assessment is mainly divided into two parts: regular grades and final exam grades, each accounting for 50% of the total grade. The regular grade assessment mainly refers to the students' group grades, classroom performance, and virtual simulation training scores, accounting for 30%, 30%, and 40% of the regular grade, respectively. In the group evaluation score, to prevent individual students from free-riding, it is mainly evaluated by the students themselves and the group leader's score combined with their justification for the score.

According to students' feedback, improve teaching design. At the end of each semester, a questionnaire is distributed to students in this course to collect feedback on the effectiveness of teaching reform experiments from a student perspective, dynamically adjust and optimize teaching design, and continuously improve teaching effectiveness, thus increasing the value of this course for students' employment practices and further study of finance, and deepening students' grasp of core courses in finance.

According to a survey conducted by the author among a class of Investment Banking students (66 students in total), regarding their willingness, satisfaction and demands for blended learning, it was found that 40.91% of the students preferred the "combination of online and offline" teaching method, 36.37% preferred purely offline teaching, and another 22.73% preferred online teaching. Students are willing to accept blended learning, but they hope that offline teaching can be the main form, so they can interact with teachers face-to-face in the classroom. Moreover, the online part should not occupy too much of their spare time. Both offline and online teaching should ensure the quality of teaching, and the online part should provide high-quality learning resources. Regarding course assessment, students still prefer offline assessment, and fairness should be ensured. This provides guarantees for the feasibility of the teaching reform project.

3.5. Build a Two-Way and Multi-Level Curriculum System Combining "Going out" and "Bringing in"

The first is to actively "go out" and implement a teacher capacity building plan. While doing well in lesson preparation and teaching on campus, teachers should also enhance their practical skills by communicating and exchanging with financial institutions such as securities firms, investment companies, and consulting companies to fully understand the actual work processes and skill requirements of various departments in investment banking. They should also participate in professional training provided by investment banking professionals, strengthen exchanges with teachers in the same industry from other universities, and enhance the authenticity and effectiveness of classroom teaching. The second is to "invite in" and leverage social resources and strength to optimize the school-enterprise cooperation and collaborative education model. Inviting financial

experts and industry leaders to give academic lectures can shorten the distance between students and industry experts and build training bases in collaboration with enterprises.

4. Conclusions

To conclude, the blended teaching model combining traditional classrooms with online teaching integrated with modern information technology has become a major trend, but it is still in the exploratory stage in practice. It is necessary to give full play to the leading role of teachers and meet the individualized learning needs of students. Students' active learning is the transition of educational methods from traditional to modern, and the balance between the two needs to be deeply considered and explored continuously. Starting from the current status and existing problems of the Investment Banking course teaching, this article proposes teaching reform ideas using "Internet+" technology under the background of informatization and puts forward reform measures based on the teaching practice of the Investment Banking course, aiming to better explore the cultivation of composite talents with practical ability and innovative spirit in the financial industry and improve teaching effectiveness.

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